

WHAT IS CLAIMED IS:

- 1           1.       A method, comprising:  
2           signaling a reconnection inhibitor over a bus to cause the reconnection inhibitor to  
3           access the bus to inhibit an Input/Output (I/O) controller from accessing the bus; and  
4           transmitting, by an initiator, I/O requests on the bus to the I/O controller, wherein  
5           the I/O requests are queued in an I/O queue, wherein the I/O controller is inhibited by the  
6           reconnection inhibitor from draining the queue while the initiator transmits requests to  
7           the I/O controller.
- 1           2.       The method of claim 1, wherein the initiator accesses the bus at a higher  
2           priority than the reconnection inhibitor, and wherein the reconnection inhibitor accesses  
3           the bus at a higher priority than the I/O controller.
- 1           3.       The method of claim 2, wherein the initiator uses a first device identifier  
2           to communicate with the bus, the reconnection inhibitor uses a second device identifier to  
3           communicate with the bus, and the I/O controller uses a third device identifier to  
4           communicate with the bus, wherein the first device identifier has priority over the second  
5           device identifier, and wherein the second device identifier has priority over the third  
6           device identifier.
- 1           4.       The method of claim 1, wherein the initiator signals the reconnection  
2           inhibitor to arbitrate on the bus when a device other than the initiator is arbitrating on the  
3           bus.
- 1           5.       The method of claim 1, further comprising:  
2           signaling the reconnection inhibitor to cease accessing the bus, wherein the I/O  
3           controller accesses the bus to complete processing of an I/O request and process further  
4           I/O requests in the I/O queue in response to the reconnection inhibitor ceasing to issue  
5           requests on the bus.

1           6.       The method of claim 5, wherein the level of I/O requests pending in the  
2 I/O queue is controlled by signaling the reconnection inhibitor, wherein the I/O queue is  
3 increased by signaling the reconnection inhibitor to access the bus to inhibit the I/O  
4 controller from accessing the bus and depleting the I/O queue, and wherein the I/O queue  
5 is decreased by signaling the reconnection inhibitor to cease accessing the bus to inhibit  
6 the I/O controller.

1           7.       The method of claim 6, further comprising:  
2 performing diagnostic testing of the I/O controller when the I/O queue is at  
3 different levels

1           8.       The method of claim 1, wherein the reconnection inhibitor accesses the  
2 bus to inhibit the I/O controller when the I/O controller attempts to arbitrate on the bus.

1           9.       The method of claim 1, wherein the reconnection inhibitor inhibits the I/O  
2 controller from processing further I/O requests in the I/O queue by preventing the I/O  
3 controller from communicating with the initiator over the bus to complete I/O requests.

1           10.      The method of claim 1, wherein the I/O controller comprises a storage  
2 controller, and wherein the I/O requests comprise read and write requests directed to a  
3 storage system managed by the I/O controller.

1           11.      The method of claim 1, wherein the bus comprises a SCSI parallel bus.

1           12.      A system, comprising:  
2 a reconnection inhibitor;  
3 an initiator;  
4 an Input/Output (I/O) controller;  
5 a bus, wherein the reconnection inhibitor, initiator, and the I/O controller  
6 communicate over the bus;

7           circuitry in the initiator capable of causing operations comprising:  
8                 (i) signaling the reconnection inhibitor over the bus; and  
9                 (ii) transmitting I/O requests on the bus to the I/O controller after signaling  
10           the reconnection inhibitor; and  
11           circuitry in the reconnection inhibitor capable of accessing the bus to inhibit the  
12   Input/Output (I/O) controller from accessing the bus in response to receiving the signal  
13   from the initiator, wherein the I/O requests transmitted by the initiator are queued in an  
14   I/O queue, wherein the I/O controller is inhibited by the reconnection inhibitor from  
15   draining the queue while the initiator transmits requests to the I/O controller.

1           13.    The system of claim 12, wherein the initiator accesses the bus at a higher  
2   priority than the reconnection inhibitor, and wherein the reconnection inhibitor accesses  
3   the bus at a higher priority than the I/O controller.

1           14.    The system of claim 13, wherein the initiator uses a first device identifier  
2   to communicate with the bus, the reconnection inhibitor uses a second device identifier to  
3   communicate with the bus, and the I/O controller uses a third device identifier to  
4   communicate with the bus, wherein the first device identifier has priority over the second  
5   device identifier, and wherein the second device identifier has priority over the third  
6   device identifier.

1           15.    The system of claim 12, wherein the initiator signals the reconnection  
2   inhibitor to arbitrate on the bus when a device other than the initiator is arbitrating on the  
3   bus.

1           16.    The system of claim 12, wherein the initiator circuitry is further capable of  
2   causing operations comprising:  
3           signaling the reconnection inhibitor to cease issuing requests on the bus, wherein  
4   the I/O controller accesses the bus to complete processing of an I/O request and process

5 further I/O requests in the I/O queue in response to the reconnection inhibitor ceasing to  
6 issue requests on the bus.

1 17. The system of claim 16, wherein the level of I/O requests pending in the  
2 I/O queue is controlled by signaling the reconnection inhibitor, wherein the I/O queue is  
3 increased by signaling the reconnection inhibitor to issue requests on the bus to inhibit  
4 the I/O controller from accessing the bus and depleting the I/O queue, and wherein the  
5 I/O queue is decreased by signaling the reconnection inhibitor to cease issuing requests  
6 on the bus to inhibit the I/O controller.

1 18. The system of claim 17, wherein the initiator circuitry is further capable of  
2 causing operations comprising:  
3 performing diagnostic testing of the I/O controller when the I/O queue is at  
4 different levels

1 19. The system of claim 12, wherein the reconnection inhibitor accesses the  
2 bus to inhibit the I/O controller when the I/O controller attempts to arbitrate on the bus.

1 20. The system of claim 12, wherein the reconnection inhibitor inhibits the I/O  
2 controller from processing further I/O requests in the I/O queue by preventing the I/O  
3 controller from communicating with the initiator over the bus to complete I/O requests.

1 21. The method of claim 1, wherein the I/O controller comprises a storage  
2 controller, and wherein the I/O requests comprise read and write requests directed to a  
3 storage system managed by the I/O controller.

1 22. The method of claim 1, wherein the bus comprises a SCSI parallel bus.

1           23.     A device in communication with an initiator and an Input/Output (I/O)  
2 controller over a bus, wherein the device includes circuitry capable of causing operations  
3 comprising:  
4           receiving a signal from the initiator; and  
5           accessing the bus to inhibit the Input/Output (I/O) controller from accessing the  
6 bus in response to the signal, wherein the initiator transmits I/O requests on the bus to the  
7 I/O controller, wherein the I/O requests are queued in an I/O queue, and wherein the I/O  
8 controller is inhibited by the device from draining the queue while the initiator transmits  
9 requests to the I/O controller.

1           24.     The device of claim 23, wherein the initiator accesses the bus at a higher  
2 priority than the device, and wherein the device accesses the bus at a higher priority than  
3 the I/O controller.

1           25.     The device of claim 24, wherein the initiator uses a first device identifier  
2 to communicate with the bus, the device uses a second device identifier to communicate  
3 with the bus, and the I/O controller uses a third device identifier to communicate with the  
4 bus, wherein the first device identifier has priority over the second device identifier, and  
5 wherein the second device identifier has priority over the third device identifier.

1           26.     The device of claim 23, wherein the device accesses the bus by arbitrating  
2 on the bus when a device other than the initiator is arbitrating on the bus.

1           27.     The device of claim 23, wherein the signal from the initiator comprises a  
2 first signal, and wherein the device circuitry is further capable of causing operations  
3 comprising:  
4           receiving a second signal from the initiator to cease accessing the bus, wherein the  
5 I/O controller accesses the bus to complete processing of an I/O request and process  
6 further I/O requests in the I/O queue in response to the reconnection inhibitor ceasing to  
7 access the bus.

1           28.    The device of claim 27, wherein the level of I/O requests pending in the  
2 I/O queue is controlled by the device accessing the bus, wherein the I/O queue is  
3 increased by the device accessing the bus to inhibit the I/O controller from accessing the  
4 bus and depleting the I/O queue, and wherein the I/O queue is decreased by the device  
5 ceasing to access the bus to inhibit the I/O controller.

1           29.    The device of claim 23, wherein the device accesses the bus to inhibit the  
2 I/O controller when the I/O controller attempts to arbitrate on the bus.

1           30.    The device of claim 23, wherein the device inhibits the I/O controller from  
2 processing further I/O requests in the I/O queue by preventing the I/O controller from  
3 communicating with the initiator over the bus to complete I/O requests.

1           31.    The device of claim 23, wherein the I/O controller comprises a storage  
2 controller, and wherein the I/O requests comprise read and write requests directed to a  
3 storage system managed by the I/O controller.